

patterns presented by those recent *Avicula* that inhabit shallows and moderate depths.

*Aviculo-pecten intercostatus* and *elongatus* also exhibit markings.

*Spirifer decorus* and *Orthis resupinata*, show fine radiating white lines.

*Terebratula hastata*, with radiating stripes.

The analogy of any existing forms that can be compared with those enumerated, would lead to the conclusion that the markings in these instances are characteristic of mollusks living in a less depth of water than 50 fathoms. In the case of the *Terebratula*, which belongs to a genus the majority of whose living representatives inhabit deep water, it may be noticed that all the living species exhibiting striped shells are exceptions to the rule, and come from shallow water.

There are many circumstances which warrant us to suspect that the carboniferous mountain limestone of most regions was a deposit in shallow water. The facts now adduced materially strengthen this inference.

In the British Museum there is a beautifully spotted example of a Devonian *Terebratula*, brought by Sir John Richardson from Boreal America.

Specimens of the *Turbo rupestris*, from the Lower Silurian Limestone of the Chair of Kildare near Dublin, exhibit appearances that seem to indicate spiral bands of colour.

#### ZOOLOGICAL SOCIETY.

November 9, 1852.—J. S. Bowerbank, Esq., F.R.S., in the Chair.

#### DESCRIPTIONS OF A NEW GENUS, AND OF SEVERAL NEW SPECIES, OF MOLLUSCA, FROM THE CUMINGIAN COLLECTION.

By ARTHUR ADAMS, F.L.S. ETC.

#### Family SOLENELLIDÆ.

Animal oblong. Mantle open in the entire length; margin double, outer edge fimbriated; hind outer edge ending in two callosous conical processes immediately below the respiratory orifice. Respiratory orifice continuous with the opening of the mantle, the margin fringed; anal siphon simple-edged, tubular, elongate, muscular, produced beyond the fringed mantle-margin which surrounds its base. Gill single on each side, attached the whole length. Labial palps elongate, fringed at their margins, and surrounded at their base by a thin dilated membrane. Foot large, compressed, geniculate, ending anteriorly in a folded ovate disc with crenate margins.

Shell thin, not pearly within. Hinge-margin with comb-like teeth. Ligament external.

#### Genus NEILO, A. Adams.

*Testa transversa æquivalvis, inæquilateralis, epidermide fusco tenui induta, latere postico hians. Dentibus cardinalibus, nullis, lateribus anticis et posticis plurimis in serie rectiuscula*

*dispositis; dentibus parvis acutis; impressionibus muscularibus subdistantibus, impressione pallii sinu magno; ligamento externo elongato.*

This genus differs from *Solenella*, not only in its *Leda*-like form, but in the hinge-margin having as many teeth anteriorly as posteriorly. In *Solenella* the series of teeth is confined to the fulcrum to which the external ligament is attached;—in this genus the teeth extend along the entire hinge-margin.

NEILO CUMINGII, A. Adams. *N. testa transversa, æquivalvi, inæquilaterali, epidermide tenui viridi-fusco oblecta, transverse concentricè sulcata; latere antico clauso, rotundato, postico longiore, subangulato, hiante, margine truncato flexuoso, superne auriculato.*

From the circumstance of the hind margin gaping considerably and being divided as if for two siphons, the anal and branchial tubes in this animal are probably distinct and elongated, as in *Leda*. The genus *Neilo*, in fact, will represent *Leda*, of the family *Nuculidæ*, in a distinct family, *Solenellidæ*, characterized by the external ligament of the hinge. It is from the shores of New Zealand.

CONCHOLEPAS (CORALLIOBIA) FIMBRIATA, A. Adams. *C. testa ovata alba, longitudinaliter radiatim costata, transverse lamellosa, lamellis pulcherrime fimbriatis; spira minuta, anfractu ultimo amplo; apertura ovali, antice attenuata, subcanaliculata; labio excavato incurvato, margine externo dilatato et valde reflexo; labro acuto, margine late dilatato et eleganter fimbriato.*

*Hab.* Cagayan, province of Misamis, island of Mindanao, Philippines. On the coral reefs at low water (*H. C.*). Mus. Cuming.

Externally this curious shell resembles *Concholepas*, but the absence of the two teeth on the fore part of the outer lip prevents it being strictly referred to that genus. In the character of the inner lip, and in its place of habitation on coral reefs, it approaches *Leptconchus*, and perhaps it has affinities also with *Pedicularia*. I have thought it best, until the animal is known, to regard it as a sub-genus of *Concholepas*, under the name of *Coralliobia*.

PAXILLUS MINOR, A. Adams. *P. testa dextrorsa, ovali, tenui, epidermide fusca oblecta; anfractibus septem, convexis, longitudinaliter confertim costellatis vel valde striatis; apertura suborbiculari, ascendente, antice subproducta; peristomate duplici, externo reflexo, dilatato; labio plica dentiformi valida instructo.*

*Hab.* — ?

I believe the little shell described above to be a dextral species of the genus *Paxillus*, described by my brother and myself in the 'Annals' for January, 1851. We there considered the genus to belong possibly to *Auriculidæ*; but an examination of this species, and a better knowledge of the locality where the shells have been found, lead us to place them amongst the *Helicidæ*.

DIPLOMMATINA BENSONI, A. Adams. *D. testa minima vix ri-*

*mata sinistrorsa, cylindrico-ovata, costellata, costulis distantibus obliquis regularibus; anfractibus sex, convexis, apice subobtusis; apertura rotundata; peristomate duplicato, externo expanso reflexo, interno recto, margine flexuoso.*

*Hab.* On the banks of a river, Moreton Bay, E. Australia (Mr. Strange).

This very pretty little shell agrees in all its characters with the genus *Diplommatina* of Mr. Benson, after whom I have named it. There is some difficulty in the location of this genus. Mr. Benson says distinctly that the eyes are "on the posterior part of the tentacula, at their base," but he says there is no operculum. Mr. Gray, on the other hand, has described the operculum. The true position is probably in *Truncatellidæ*.

**CRASSATELLA SPECIOSA**, A. Adams. *C. testa transverse ovata, subæquilaterali, pallida, epidermide tenui fusca induta, concentricè plicata; plicis confertis regularibus; latere postico rotundato, antico acuminato subrostrato, angulato, margine ventrali convexo, antice sinuato.*

*Hab.* Bay of Campeachy. Mus. Cuming.

The beaks in this species are acute and close together, and rather more deeply plicate than the rest of the surface of the valves; there is an obtuse oblique and angular ridge extending from the umbones to the ventral margin.

**CRASSATELLA LÆVIS**, A. Adams. *C. testa ovato-transversa, crassa, tumida, subæquilaterali, castanea, lævigata, concentricè striata, natibus subsulcatis; latere postico rotundato, antico producto subrostrato, margine oblique truncato, carina obtusa a natibus ad basin decurrente instructo, posteriori sulcato, margine ventrali convexo antice sinuato.*

*Hab.* La Guayra (M. Le Marie, French Navy). Mus. Cuming.

A large smooth pale chestnut shell beaked anteriorly and with a prominent obtuse keel extending from the beaks to the fore part of the ventral margin, and a broad shallow groove behind it; the lunule is ovate lanceolate, and the beaks are transversely sulcate.

**CRASSATELLA OBSCURA**, A. Adams. *C. testa ovato-trigonalis, transversa, subæquilaterali, compressa, nigro-fusca, apicibus transverse corrugata, ad umbonem plicata; latere antico rotundato, postico subtruncato; margine valvarum intus crenulato.*

*Hab.* China Seas, deep water. Mus. Cuming.

A small brown-black species, with the valves only plicate near the beaks and their inner margins finely crenulated.

**CRASSATELLA BELLULA**, A. Adams. *C. testa ovato-trigonalis, subæquilaterali, carneo-fulva, immaculata, transverse concentricè plicata; plicis obtusis subconfertis regularibus, antice undulatis, subevanidis (sub lente rugulosis); latere postico rotundato, antico vix truncato; umbonibus acutis parvis approximatis.*

*Hab.* New Zealand (Mr. Hart). Mus. Cuming.

A beautiful pinkish yellow species, without any spots or markings, with the plicæ on the fore part undulated and rugulose under the lens.

**CRASSATELLA TRUNCATA**, A. Adams. *C. testa ovata, compressa, carnea, pallidiori ad partem anticam, radiis angustis inconspicuis ornata, inæquilaterali, latere antico breviori et rotundato, postico dilatato et truncato, linea elevata e umbonibus ad marginem ventralem; transversim valde costata, costis acutis subimbricatis.*

*Hab.* China Sea, deep water (*A. Adams*).

This is a small pale pink or flesh-coloured species, strongly ribbed, the ribs being sharp, prominent and imbricated; the posterior side is dilated and truncate, and the surface of the valves is marked with faint linear radiating lines.

**CRASSATELLA COMPTA**, A. Adams. *C. testa ovato-trigonalis, subæquilaterali, apicibus antrorsum curvatis, rufescenti, transverse concentricè plicata; plicis validis, regularibus, subdistantibus; latere antico angustiori, postico latiori, rotundato, interne purpurascente.*

*Hab.* China Sea, deep water (*A. Adams*).

This is a small red species, with prominent curved beaks, strongly plicate transversely, and of a purplish pink colour in the interior of the valves.

**CRASSATELLA CONCINNA**, A. Adams. *C. testa ovato-transversa, subæquilaterali, epidermide tenui fusca oblecta, utrinque rotundata, concentricè plicata, plicis validis regularibus rufofusco articulatis; interstitiis creberrime longitudinaliter striatis; umbonibus acutis confertis.*

*Hab.* China Sea, deep water (*A. Adams*).

A small fuscous species, of an ovate form, rounded at both ends, with the transverse plicæ strongly produced and prettily articulated with brownish red.

#### ROYAL INSTITUTION OF GREAT BRITAIN.

May 12, 1854.—Sir Henry Holland, Bart., M.D., F.R.S., Vice-President, in the Chair.

*On the common Plan of Animal Forms.* By THOMAS HUXLEY, Esq., F.R.S.

The Lecturer commenced by referring to a short essay by Gœthe—the last which proceeded from his pen—containing a critical account of a discussion bearing upon the doctrine of the Unity of Organization of Animals, which had then (1830) just taken place in the French Academy. Gœthe said that, for him, this controversy was of more importance than the Revolution of July which immediately followed it—a declaration which might almost be regarded as a prophecy; for while the *Charte* and those who established it have vanished as though they had never been, the Doctrine of Unity of Organization